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James Henry DeVore

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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/721,647  
Filing Date: November 25, 2003  
Appellant(s): DEVORE ET AL.

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David L. Wisz  
For Appellant

**MAILED**

SEP 08 2006

**GROUP 3600**

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 22 June 2006 appealing from the Office action mailed 21 September 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is deficient. 37 CFR 41.37(c)(1)(v) requires the summary of claimed subject matter to include: (1) a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number, and to the drawing, if any, by reference characters and (2) for each independent claim involved in the appeal and for each dependent claim argued separately, every means plus function and step plus function as permitted by 35 U.S.C. 112, sixth paragraph, must be identified and the structure, material, or acts described in the specification as corresponding to each claimed function must be set forth with reference to the specification by page and line number, and to the drawing, if any, by reference characters. The brief is deficient because some of the claimed elements, as

recited in the summary of claims 1, 13 and 17, do not include their corresponding reference numbers, as shown in Figures 1 and 2. For the purpose of clarity, examiner has written the summary of claim 1 as follows:

**Summary of Claim 1**

1. A vehicle transmission system comprising:  
an automated mechanical transmission (26) shiftable between a first and second gear ratio;  
a first rotational component (52);  
a second rotational component (54) which rotates relative to said first component (52);  
a first sensor (58) adjacent said first rotational component (52);  
a second sensor (59) adjacent said second rotational component (54);  
a controller (46) in communication with said first sensor (58) and said second sensor (59),  
said controller operable to determine a relative movement between said first rotational component and said second rotational component indicative of an approximately zero torque condition to initiate a shift between said first and said second gear ratio (paragraph [24]).

**Summary of Claim 13**

13. A method of controlling a vehicle transmission comprising the steps of:  
(1) determining a relative movement between a first rotational component (52) and a second rotational component (54);  
(2) relating the relative movement of said step (1) to an approximately zero torque condition (paragraph [23]); and

(3) shifting the vehicle transmission between a first and second gear ratio in response to identification of the approximately zero torque condition (paragraph [24]).

**Summary of Claim 17**

17. A method of controlling a vehicle transmission comprising the steps of:

- (1) determining a speed irregularity (paragraph [25]) between a first rotational component (52) and a second rotational component (54);
- (2) relating the speed irregularity (paragraph [25]) of said step (1) to an approximately zero torque condition (paragraph [23]); and
- (3) shifting the vehicle transmission between a first and second gear ratio in response to identification of the approximately zero torque condition (paragraph [24]).

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

A substantially correct copy of appealed claim 18 appears on page 13 of the Appendix to the appellant's brief. The minor errors are as follows:

Claim 18, lines 2-3 "said second rotational interface component" should be --said second rotational component--.

**(8) Evidence Relied Upon**

6,151,978	Huber	11-2000
6,167,996	Huber et al.	01-2001

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 13, and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 6,151,978 to Huber (Huber'978).

**Note:**

It should be noticed that *Huber'978*, column 3, lines 27-31, states, "This invention preferably includes the method that is disclosed in the copending U.S. patent application Ser. No. 08/988,465, which was filed on Dec. 10, 1997. The teachings of that application are incorporated into this specification by reference." The U.S. patent application Ser. No. 08/988,465, filed on Dec. 10, 1997, is now the U. S. Patent No. 6,167,996 to Huber et al. (Huber'996).

**Huber'978** (Fig. 1; column 1, line 66 – column 6, line 4) discloses a shift by wire vehicle transmission comprising:

*With Respect to Claim 1:*

- An automated mechanical transmission (14) shiftable between a first and a second gear ratio;
- A first component (16);
- A second component (20) movable relative said first component (16);
- A first sensor (40) adjacent said first component;
- A second sensor (42) adjacent said second component;
- A controller (32) in communication with said first sensor (40) and said second sensor (42), said controller operable to determine a relative movement between said first component (16) and said second component (20) indicative of an approximately zero torque condition to initiate a shift between said first and said second gear ratio (i.e., column 2, line 56 – column 3, line 31 of **Huber'978**; and i.e., column 3, line 27 – column 4, line 2 of **Huber'996**).

*With Respect to Claim 2:*

- Wherein said first and second sensors are speed sensors (i.e., column 3, lines 21-26).

*With Respect to Claim 3:*

- Wherein said controller identifies a speed irregularity signature generated by said first and second sensor (i.e., column 2, line 56 – column 3, line 31 of **Huber'978**; and i.e., column 3, line 27 – column 4, line 2 of **Huber'996**; being the speed difference between a rotational speed of the first rotational component (16) and a rotational speed of the second rotational component (20) which causes zero torque condition has not been achieved).

*With Respect to Claim 4:*

- Wherein said controller identifies a first noise signature component indicative of an approximately zero torque condition (i.e., column 2, line 56 – column 3, line 7 of **Huber'978**, when the controller 32 communicates with the engine control 34 to cause the engine 12 to be driven to a synchronization speed and synchronous condition is achieved; and column 4, line 67 – column 5, line 4 of **Huber'996**, being the audible beep).

*With Respect to Claim 6:*

- Wherein said first component is a shaft (16).



*With Respect to Claim 13:*

A method of controlling a vehicle transmission comprising the steps of:

- (1) determining a relative movement between a first rotational component (16) and a second rotational component (20) (i.e., column 2, line 56 – column 3, line 31 of *Huber'978*; and i.e., column 3, line 27 – column 4, line 2 of *Huber'996*);
- (2) relating the relative movement of said step (1) to an approximately zero torque condition (i.e., column 2, line 56 – column 3, line 31 of *Huber'978*; and i.e., column 3, line 27 – column 4, line 2 of *Huber'996*); and
- (3) shifting the vehicle transmission between a first and second gear ratio in response to identification of the approximately zero torque condition (i.e., column 2, line 56 – column 3, line 31 of *Huber'978*; and i.e., column 3, line 27 – column 4, line 2 of *Huber'996*).

*With Respect to Claim 17:*

A method of controlling a vehicle transmission comprising the steps of:

- (1) determining a speed irregularity between a first rotational component (16) and a second rotational component (20) (i.e., column 2, line 56 – column 3, line 31 of *Huber'978*; and i.e., column 3, line 27 – column 4, line 2 of *Huber'996*, being a speed difference between a rotational speed of the first rotational component and a rotational speed of the second rotational component);

(2) relating the speed irregularity of said step (1) to an approximately zero torque condition (i.e., column 2, line 56 – column 3, line 31 of *Huber'978*; and i.e., column 3, line 27 – column 4, line 2 of *Huber'996*); and

(3) shifting the vehicle transmission between a first and second gear ratio in response to identification of the approximately zero torque condition (i.e., column 2, line 56 – column 3, line 31 of *Huber'978*; and i.e., column 3, line 27 – column 4, line 2 of *Huber'996*).

*With Respect to Claim 18:*

- Wherein said first rotational component and said second rotational component are connected to a gear interface (i.e., *Huber'978*, Fig.1, element 18) such that said second rotational component rotates relative to said first rotational component through said gear interface (18).

*With Respect to Claim 19:*

- Wherein said relative movement includes a predetermined signature between said first rotational component and said second rotational component (i.e., column 3, line 59 – column 4, line 2 of *Huber'996*).

With Respect to Claim 20:

- Wherein said step (1) comprises determining a predetermined noise signature indicative of the approximately zero torque condition (i.e., column 2, line 56 – column 3, line 31 of *Huber*'978; and i.e., column 3, line 27 – column 4, line 2 of *Huber*'996).

**(10) Response to Argument**

Applicants' argument with respect to Claim 1:

Applicants argue that *Huber*'978 fails to disclose or suggest determining a relative movement signature as recited in claim 1. Examiner respectfully disagrees because the mentioned limitation "a relative movement signature" has not been claimed or recited in the present claim 1.

Applicants' argument with respect to Claim 13:

Applicants argue that *Huber*'978 fails to disclose or suggest determining relative movement as recited in claim 13. Examiner respectfully disagrees because, as set forth in paragraph 9 above, *Huber*'996 (column 3, line 27 – column 4, line 2) teaches the mentioned claimed limitation.

Applicants' argument with respect to Claim 17:

Applicants argue that Huber'978 fails to disclose or suggest determining a speed irregularity as recited in claim 17. Examiner respectfully disagrees because, as set forth in paragraph 9 above, examiner construes the claimed determining a speed irregularity as determining a speed difference between a rotational speed of the first rotational component and a rotational speed of the second rotational component and Huber'996 (column 3, line 27 – column 4, line 2) teaches this claimed limitation.

Applicants' argument with respect to Claim 3:

Applicants argue that Huber'978 does not disclose or suggest the claimed speed irregularity signature. Examiner respectfully disagrees because, as set forth in paragraph 9 above, examiner construes the claimed speed irregularity signature as the speed difference between the rotational speed of the first rotational component and the rotational speed of the second rotational component that is less than the preselected value, and Huber'996 (column 3, line 59 – column 4, line 2) teaches the mentioned claimed limitation.

Applicants' argument with respect to claim 19:

Applicants argue that Huber'978 does not determine a predetermined signature. Examiner respectfully disagrees because, as set forth in paragraph 9

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above, Huber'996 (column 3, line 59 – column 4, line 2) teaches the mentioned claimed limitation.

Applicants' argument with respect to Claims 4 and 20:

Applicants argue that Huber'978 fails to disclose or suggest determining a predetermined noise signature as recited in claims 4 and 20. Examiner respectfully disagrees because, as set forth in paragraph 9 above, Huber'996 (column 4, line 67 – column 5, line 4) teaches the usage of an audible beep to indicate that the desired gear is not engaged. Accordingly, when there is lack of audible beep, it indicates a zero relative torque between two rotational components.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.


Respectfully submitted,

David D. Le

04 September 2006

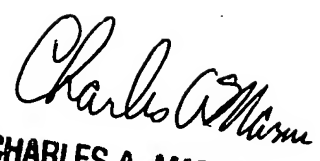
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